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in a body, but singly, for express devotional observances—particularly for confession. Every Ching, as the female priests were called, had her favorite Chong, or priest, to whom she daily confessed her sins either in the temple of her cloister or in her private room.

The Py-wigs and many of the Chops had become powerful princes, who, by their religious influence, their wealth, and the number of their retainers, swayed the destinies of the kingdoms of the empire. The Py-wig could always, in case of war, decide questions in favor of any party he chose to befriend, by throwing the moral weight of his support in the balance, by assisting him, through his wealth and influence with neutral parties, and by directing expressions of displeasure in behalf of his church against his enemies. Under these circumstances the priesthood and particularly their common head, the Py-wig, grew to be the first power in the then known world. He deposed princes and created others; exacted contributions, made and dissolved alliances, ordered marriages, and decreed separations, forgave sins, and tolerated or prohibited vices at his pleasure. He had his faithful subordinates at every court, in every district, in every house, who turned every occurrence to his advantage, and who had no other care than the advancement of the Church and the aggrandizement of the great Py-wig. As the Py-wigs were rarely elected to this great office until they had attained an advanced age, the succession of Py-wigs was more rapid than that of temporal princes. It could not fail among the great number of Py-wigs who filled the office that there should be some, and there were indeed many, who, placed at an elevation far above other men, misused their power and indulged in the many weaknesses which Chinese flesh is heir to. These unfortunate Py-wigs, by their example, relaxed the severe discipline of their religion, amassed wealth at the expense of justice, embroiled their neighbors in wars and bloodshed for the gratification of their personal ambition and malice. They exacted heavy contributions for their support and that of the Church, among their own and the subjects of other potentates throughout the land, and applied the proceeds to gratify their own vicious desires. The priesthood followed in the footsteps of the Py-wigs. Drunkenness, licentiousness, avarice, and other immoralities were the characteristics of the majority, and the few who were honest enough to deprecate these vices, and intelligent enough to make their voices heard in the din and turmoil of war and licentiousness, spoke loudly against abuses which were daily bringing into disrepute and contempt the Church they looked up to as the source of all that was good and great.

Among the wise and good men of this age there were many who, dissatisfied with government and church as well as with the society they lived in, found consolation in the pursuit of sciences and arts, and in teaching schools of the youth of their country. This was the age of great discoveries and research. All the old prejudices were overhauled and tested, and many found wanting. The natural sciences and architecture received an impetus unequalled in

the annals of Chinese history. Colleges were erected for the education of youth, which formed the foundation of institutions for learning that were destined to last for several thousand years. At the end of the 14th century, society appeared divided into two classes;—one class flourishing upon the corruption of the existing state of things in affluence and dissipation, who naturally insisted in the name of the Church upon the continuation of it; and another class who disgusted with affairs, yet loyal to the Church, expected improvement from advanced education, and found a solace in developing the mysteries of nature. To this latter class the Chinese are indebted for the two greatest events of that age—events which formed the principal elements of their future, and which we reserve for the next chapter.

(To be continued.)

TEMPERA AND ENCAUSTIC IN ANTIQUITY AND THE MIDDLE AGES.

From "*Painting Popularly Explained*," by T. J. GULLICK and J. TIMBE.

HAVING explained the principal technical processes of painting employed by the ancients, a few connecting notices of the practice at different periods, together with a glance at inferior branches of the art—such, for instance, as vase-painting—are necessary to complete a general view of the subject. Of the origin of painting various theories have been entertained. Prof. Gottfried Semper and others seem to think it originated in the ornamentation of woven fabrics; while Müller believes it arose from the coloring of statues and reliefs; and writers on ceramics follow the opinion of Pasioteles (quoted by Pliny), that pottery was the parent of the arts. "I shall not plague you or myself," says Haydon, "with a useless discussion as to where the arts first had origin, whether in India or Egypt, Italy or Greece, before the Flood, or after the building of Babel. According to my principle, the very first man born after the creation, with such a peculiar and intense sensibility to receive impressions through the eye, on the brain, of the beauty of color, light, and shadow, and form, so as to be irresistibly impelled in his earliest childhood to attempt the imitation of what he saw and felt by lines and colors to convey his innocent thought and combinations, in him originated PAINTING."—*Lectures*, vol. i. p. 6.

1. THE EGYPTIANS.—Undoubtedly, the oldest remains of painting are Egyptian; and the earliest, namely, those executed in the Pharaonic period, are by far the best, the arts being constantly in a state of decline, from the earliest known examples, through the Ptolemaic period to the Roman. Three classes of paintings have been discovered in Egypt: those on the walls, those on the cases and cloths of mummies, and those on papyrus rolls. Of these, the paintings in the tombs and temples are first in merit and interest. The Egyptians were remarkably fond of variety of patterns on the walls and ceilings of their houses and tombs, and on their hangings, dresses, furniture, and vases. . .

Painting in Egypt was practised under peculiar conditions. Painters and sculptors were forbidden by a jealous priesthood to introduce any change or innovation whatever in the practice of their respective arts, or in any way to add to them. Thus Art remained stationary from generation to generation. It was indeed considered a necessary part of the system that painting

and sculpture should not be practised by illiterate people, lest they should attempt anything contrary to the established order of things. The consequences were that Art preserved many, so to speak, infantine characteristics.* Even the imitation of nature was not carried in painting beyond an outlined diagram, arbitrarily colored; much less was any effort made to attain any ideal beauty, which the Greeks were the first to comprehend and embody. "Nor did the Egyptians understand the beauty and true province of bas-relief like the Greeks; in their battle scenes they attempted to make a picture; and in order to obviate the confusion resulting from a number of sculptured figures one behind the other, they placed them in all parts of the same field, regardless of the sky or of perspective, providing only against everything which might interfere with the hero of the subject—the king—who depended on colossal size, instead of Art, for his importance."—*Sir J. Gardner Wilkinson*. . . .

The method of executing a wall painting has been thus described by Mr. Owen Jones: "The wall was first chiselled as smooth as possible, the imperfections of the stone were filled up with cement or plaster, and the whole was rubbed smooth and covered with a colored wash; lines were then ruled perpendicularly and horizontally with red color, forming squares all over the wall, corresponding with the proportions of the figures to be drawn upon it. The subjects of the painting and of the hieroglyphics were then drawn on the wall with a red line, most probably by the priest or chief scribe, or by some inferior artist, from a document divided into similar squares; then came the chief artist, who went over every figure and hieroglyphic with a black line, and a firm and steady hand, giving expression to each curve—deviating here and confirming there the former red line. The line thus traced was then followed by the sculptor. In this stage, there are instances of a foot or head having been completely sculptured [incised], whilst the rest of the figure remains in outline. The next process was to paint the figure in the prescribed colors; and in some cases the painted line deviates from the sculptured line, showing that the painter was the more important workman, and that even in this last process no possible improvement was omitted. There are other instances where a considerable deviation from the position of a leg or arm has been made after the sculpture was finished and painted: the part was re-carved, and the defective portion filled in with plaster; which, having since fallen out, furnishes us with this curious evidence of their practice." Exactly corresponding with this is the description given by Belzoni of the executing and painting of the Egyptian bassi-relievi which he found in the Biban el Molouk, or Tombs of the Kings, at Thebes.

The colors were mixed with dissolved glue, and apparently, sometimes, even with wax: there is an example in the British Museum of the colors being mixed with wax (mistaken sometimes for an oil-painting), in a small funeral group of two figures. The ordinary colors seen upon the sculptures and

paintings are red, yellow, green, and blue, of which there are two tints; black also was used, but for white, the white ground, which was prepared as fine as letter-paper, was, of course, sufficient. These colors are sometimes modified by admixture with chalk, but they are always applied singly and unmixed together. Different colors were reserved for different objects. Men and women were painted red—the men of a darker tint than the women. Black men also frequently occur, and some captives, of, probably, a race with lighter complexions, are painted yellow, with black beards. According to the best chemical analyses of Egyptian colors, the *blues* appear to be oxides of copper, with a small intermixture of iron; none of them contain cobalt. Belzoni, therefore, who supposed the Egyptian blues to be indigo, appears to be in error. The *reds* are red oxide of iron mixed with lime. The *yellows*, which are sometimes of a pure bright sulphur color, appear to be generally vegetable colors; the greens are a mixture of this vegetable yellow with copper blue; the vegetable, it has been suggested, might be the *henas* plant, which is still used in the East for such purposes. The bluish-green, which sometimes appears on Egyptian antiquities, is a faded blue. The *blacks* might be from wine-lees, burnt pitch, charcoal, or soot. Painters and sculptors held in Egypt a rank similar to that of architects and professional scribes—indeed, painting, sculpture, and architecture were so intimately united that it is almost impossible to separate them. "The same kind of wooden palette, or inkstand, was used by the scribe in drawing outlines, as by the scribe in writing upon a papyrus; and the same kind of reed pen was employed for both purposes. The inkstand contained two colors, black and red, the latter being used at the beginning of a subject, and for the division of certain sentences—showing this custom to have been as old as that of holding the pen behind the ear, often portrayed in the paintings of the tombs. Some palettes contained more than two colors—black, red, blue, green, and white. They were of the same long shape as the ordinary inkstand, with the usual case in the centre for holding the pens, and some were of square or oblong form, made of wood or stone, with a larger cavity for each color. Slabs and pestles [muller:] for grinding colors, are also commonly found in the tombs of Thebes, as well as lumps of ochre, green, blue, and other colors. The sacred scribes were of the priestly order, but the royal scribes might be either priests or military men, and they were generally sons of the king, or of the chief men of the court. The public scribes were also men of great trust and consequence, to whom the settlement of public and private accounts was committed, and they assisted or performed the office of magistrates, in condemning defaulters to punishment."—*Sir J. Gardner Wilkinson*.

The Egyptians, besides painting the bas-reliefs, painted also detached statues. . . . They also painted obelisks, sarcophagi, and other similar objects. . . . Some of the Egyptian varnishes were made of glue, others appear to be resinous. A bright varnish on painted wood, on analization, dissolved with a yellow color, and, by mixing water with it, was precipitated in masses, whence it may be inferred to have been a resinous substance, dissolved, probably, in oil of turpentine. Another experiment was made on a varnish which was thickly spread over some colors on a sarcophagus, which proved it to be glue. When dissolved in warm water, it showed a thready texture, and dried into a horny, translucent skin; the solution was immediately decomposed by alcohol and an infusion of galls. From the very thready nature of the glue, it appears to have

* "The child, and the uninstructed in Art alike, seem to consider it of the greatest importance to omit nothing which they are able to see. Continuity of form appears to them a point of first necessity. A boundary line studiously even and unbroken [the chief characteristic of Egyptian painting] of an object so situated as to afford the fullest view, is deemed the best and most natural expression of it. This impression is but conformable to the first notions entertained concerning the appearance of objects, such notions being entirely referable to the most familiar and habitual associations."—*FIELDING on the Philosophy of Painting*.

been made from very hard hides, such as those of the rhinoceros or hippopotamus.

A few words may be considered not out of place on the hieroglyphs (literally "sacred sculptures"), the "picture-writing" of the Egyptians. The hieroglyphs were generally colored on the great monuments when complete; and three principal kinds have been remarked by M. Champollion: 1. Sculptured, but not painted. 2. Sculptured and painted. 3. Drawn in outline with a pencil and then painted. Besides which, they may be classed as—4. *Polychrome*, or painted with various colors. 5. *Monochrome*, or having only one tint throughout the inscription. As it is probable that all were painted, the first class can only apply to certain inscriptions of which the colors have disappeared. The second was that in use for monuments of the highest importance. On these, by means of simple primitive colors and flat tints, the Egyptians endeavored to imitate conventionally the objects which the hieroglyphs represented; thus the heaven was colored blue, the hills red, the moon yellow; men with red flesh and white garments, the folds of which are sometimes traced in red, etc. Some idea may be formed in the Egyptian Court of the Crystal Palace of the beautiful appearance which the tombs presented, and the gay and artistic effect produced by lines of these pure hieroglyphs, appropriately colored with simple color to imitate the objects they represent. Alphabetic writing compared to it is as mean and tasteless as the "Frank" dress compared with the Oriental costume. It is evident, however, that so elaborate a system of writing was not calculated for monuments, unless they were of the greatest importance. Consequently, for the books or rolls of papyri and other objects, such as sarcophagi and tablets, another kind of hieroglyphs, to which the term *linear* has been applied, were used. These were engraved with a pointed tool when cut, and traced with the reed when written in black or red ink; and either by tracing the outline of the object, or by giving the principal characteristics in one thick line. The linear hieroglyphs are indeed capable of many minute divisions and subdivisions of style, according as they approach to, or recede from, in their finish, the pure hieroglyphs. They form a very large class and portion of the writing. They are generally black, but the leading words of the chapters and direction pages are written in red, like the rubrics of prayer-books; and sometimes the work is accompanied throughout by vignettes, one to each chapter, elaborately painted like those of missals.*

Yet, with undeniable mechanical merit, scarcely a single principle of Art is illustrated in any kind of Egyptian painting yet discovered, if we except perhaps one or two of the small cedar portraits which have been found in mummy cases, and in which we see, in addition to the outline, the relief distinctly expressed by light and shade. In no Egyptian painting is there the slightest indication of a knowledge of perspective.

It seldom or never happens, that a man of sense, who has experience in Art, cannot judge of its beauty; and it is no less rare to meet with a man who has a just taste without a sound understanding.—*Hume*.

* For further information on the various kinds of writing, as the *hieratic*, or sacerdotal manner; the *demotic*, or *enchorial*; the popular, or epistolary, see Mr. Samuel Birch's "Introduction to the Study of the Egyptian Hieroglyphs."

Architecture.

AMERICAN INSTITUTE OF ARCHITECTS.

Regular Meeting of May 2d, 1859.—Henry Van Brunt alluded to the proposed erection of a Conservatory of Arts and Sciences in Boston. A general desire was expressed that the managers of that institution should invite the coöperation of architects generally in designing a building of so much importance.

Richard Uppjohn, Esq., introduced the question of ownership of drawings. After discussion, the opinion prevailed that all drawings are but instruments of service, and therefore belong at all times to the architect, unless otherwise specially provided.

By order,

WM. BACKUS,
Secretary, *pro tem*.

Foreign Correspondence, Items, etc.

ENGLAND.—It is customary in London for artists of distinction, and perhaps for those without distinction, to throw open their studios to friends and amateurs previous to sending their pictures to the Royal Academy exhibition. As the *Illustrated Times* says, "All who care for Art and its professors make pilgrimage to these little studio-shrines. The ladies, bless them! without the smallest notion of what is really good or bad, swarm in the little rooms;" while on such occasions most of the pictures which are for sale find appreciative owners, and artists themselves the recipients of many compliments. In relation to London, a friend says: "London is a charming place to live in when one has good friends, and especially a pocketful of money; otherwise he will have many drawbacks and blue days. I would never advise any man to go to London if he has not plenty of money; he had better migrate to some place where it is warm, and where his ration of beer and mutton would not be so much needed. Furthermore, the slouched hat, the threadbare old coat, and all that kind of comfortable artistic picturesqueness which go so well in fair and sunny Italy, and which the brush brotherhood, in their virginity, are wont to indulge in, does not look well in that Christianized, highly-civilized and proper land.

A valued correspondent, writing from London, says, "There is no doubt a growing taste in England for the Fine Arts, to which the water-color painters have very greatly contributed. During the past winter the fashion has been gaining ground of having private *conversazioni*, at which pictures and portfolios of sketches formed the staple entertainment—a much pleasanter and more rational mode of passing an evening (according to my humble judgment) than the regular diversion of dancing, lemonade, and small-talk. We have had a very interesting exhibition of the works of *David Cox* the elder ('the Nestor of English water-color painters,' as — calls him). The exhibition has not been well managed, and many leading works which should and might have been obtained, are wanting; but still it is a charming collection, and interesting, not only on account of the surpassing excellence of the drawings, but as showing at one view a sort of chronological series, thus enabling one to trace the artist's gradual progress to full maturity and power. It is wonderful what this artist can accomplish with a sweep of his brush, and how he manages to produce the most wonderful